Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for automatically generating source code for manipulating at least one mark-up language message based on a mark-up message definition, the method comprising the steps of:

a) receiving the mark-up language message definition;

b) generating a first in-memory representation of the message definition based on the received message definition; and

c) generating a second in-memory representation of a source code based on the first in-memory representation of the message definition, said generating a second in memory representation comprising generating a schema object tree by employing a blackboard architecture that includes agents and solutions; wherein the schema object tree includes one or more nodes; and wherein the nodes of the schema object tree are agents and the nodes of the source object tree are the solutions; and [[.]]

generating source files based on the second in-memory representation of the source code.

Claim 3 (original): The method of claim 1 wherein the first in-memory representation is a schema object tree corresponding to an XML Schema message definition; wherein the schema object tree includes one or more nodes.

Claim 4 (original): The method of claim 1 wherein the second in-memory representation includes one of class members, class methods, source file object nodes, class object nodes, and source file comment object nodes.

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Claim 6 (currently amended): The method of claim 2 wherein the second in-memory representation includes elements and attributes; wherein the ~~step of~~ generating source files based on the second in-memory representation of the source code ~~includes the step of~~ comprises writing the elements and the attributes into respective Java class source files.

Claim 7 (currently amended): The method of claim 5 wherein the ~~step of~~ generating a source object tree by employing a blackboard architecture ~~includes the step of~~ comprises performing context sensitive compilation while generating each node of the source object tree.

Claim 8 (currently amended): The method of claim 7 wherein the ~~step of~~ performing context sensitive compilation while generating each node of the source object tree ~~includes~~ comprises performing pre-fix processing.

Claim 9 (currently amended): The method of claim 7 wherein the ~~step of~~ performing context sensitive compilation while generating each node of the source object tree ~~includes~~ comprises performing in-fix processing.

Claim 10 (currently amended): The method of claim 7 wherein the ~~step of~~ performing context sensitive compilation while generating each node of the source object tree ~~includes~~ comprises performing post-fix processing.

Claim 11 (original): The method of claim 1 wherein the mark-up language is XML.

Claim 12 (original): The method of claim 1 wherein the mark-up language message definition is an XML schema message definition.

Claim 13 (original): The method of claim 2 wherein the source code stores information included in at least one XML message.

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Claim 14 (original): The method of claim 2 wherein the source code manipulates information included in at least one XML message.

Claim 15 (currently amended): The method of claim 1 [[16]] wherein the method generates a communication API based on an XML schema definition.

Claim 16 (currently amended): The method of claim 1 wherein the method and further comprising automatically parsing parses context sensitive grammar in the compilation of XML schema to source code.

Claim 17 (currently amended): A system for generating source code for manipulating at least one mark-up language message comprising: a) a first module for receiving a message definition and based thereon for generating a first in memory data structure that corresponds to the message definition, wherein the first data structure comprises a plurality of nodes; and b) a second module for receiving the first data structure and based thereon for generating a second in memory data structure that corresponds to source code for manipulating at least one mark-up language message, wherein the second data structure comprises a plurality of nodes [[.]] ; a blackboard architecture, wherein the nodes of the first data structure are agents and the nodes of the second data structure are solutions.

Claim 19 (original): The system of claim 17 further comprising: a mechanism for handling context sensitive grammar; wherein the processing for a current node in the first data structure considers child nodes of the current node and the parent node of the current node.

Claim 20 (original): The system of claim 17 wherein the source code includes Java class source files.

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Claim 21 (original): The system of claim 17 wherein the mark-up language message is an XML mark-up language message.

Claim 22 (currently amended): A method for automatically generating source code for manipulating at least one mark-up language message comprising ~~the steps of~~: ~~a)~~ receiving a schema definition for a mark-up language message; ~~b)~~ generating a first in-memory representation of the schema definition based on the schema definition; ~~c)~~ generating a second in-memory representation of source code based on the first in-memory representation of the schema definition; wherein the step of generating a second ~~in-memory~~ in-memory representation of source code based on the first in-memory representation of the schema definition includes performing one of context free processing and context sensitive processing.

Claim 23 (currently amended): The method of claim 22 further comprising ~~the steps of~~: generating one or more source code files based on the second in-memory representation of source code.

Claim 24 (currently amended): The method of claim 22 further comprising: reading a portion of a schema definition that corresponds to one or an element or an attribute from a schema definition file; constructing a schema object hierarchy based on the read portion; [[and]] compiling the object hierarchy into a source object hierarchy; and writing the source object hierarchy to one or more object-oriented source files.

Claim 25 (currently amended): The method of claim 24 wherein schema object hierarchy includes a plurality of objects; and wherein each object includes code to compile itself into a source code primitive.

Claim 26 (currently amended): The method of claim 24 wherein the source object hierarchy includes a ~~special~~ set of objects that represent a predetermined class source file and that has a predetermined number of members, methods and definitions.

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Claim 27 (currently amended): The method of claim 24 wherein the source object hierarchy includes an object corresponding to a whole source file, an object corresponding to a file declaration comment, an object corresponding to a package name, an object corresponding to import statements, and an object corresponding to class definitions.

Claim 28 (original): The method of claim 27 wherein the object for class definition includes one of an object corresponding to declaration statement, an object corresponding to specific class member definition, and an object corresponding to method definition.

Claim 29 (original): The method of claim 24 wherein each source object is programmed to write itself into a respective source file.

Claim 30 (currently amended): The method of claim 29 wherein each source object includes a toString( )method toString( ) method that recursively calls toString( ) method of its descendents to write itself into a respective source file.

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